

**REMARKS**

Claims 1-6 are currently pending in the subject application, and are presently under consideration. Claims 1-6 are rejected. Claims 8-14 and 16-24 have been withdrawn from consideration. Claim 6 has been amended to depend from claim 5. This amendment is not meant to limit the claims in any manner. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

**I. Rejection of Claims 1 and 4 Under 35 U.S.C. §103(a)**

Claims 1 and 4 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,148,261 to Obradovich, et al. ("Obradovich") in view of U.S. Publication No. 2003/0017646A1 to Sridharan, et al. ("Sridharan"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 recites a communications module, operative to interface with a handheld computing device, such that a given module can be connected to the handheld computing device and removed from the handheld computing device without substantial invasion of the handheld computing device. A global positioning system determines the location of the module relative to a standard set of coordinates. An L-band transceiver, operative to transmit data directly to a satellite relay, broadcasts the determined location at a frequency within the L-band of the electromagnetic spectrum and receives location data for at least one other communications module. An electrically conductive enclosure substantially encompasses the L-band transceiver. The electrically conductive enclosure is operative to facilitate the dissipation of heat produced by the L-band transceiver and to shield the L-band transceiver from electromagnetic interference.

It is respectfully submitted that claim 1 defines patentable invention over Sridharan and Obradovich, as Sridharan and Obradovich, taken alone or in combination, fail to teach or suggest a Faraday cage that encloses an L-band transceiver to reduce electromagnetic interference at the transceiver and to draw heat from the L-band transceiver away from the processing unit. The Office Action notes that Obradovich fails to disclose the recited Faraday cage. The Examiner

cites the soldier ball/via system of Sridharan providing this teaching, specifically paragraphs 7 and 9. Sridharan discloses a ball grid array package that includes an external Faraday cage formed around an integrated circuit. The Examiner states that it would be obvious to one of ordinary skill in the art at the time the invention was made because it would reduce the electromagnetic interference that can occur when large numbers of circuits are placed in close proximity.

Applicant's representative disagrees with this asserted motivation. Obradovich does not discuss its chip arrangement or any efforts taken to shield the transmitter and processing equipment from mutual or external interference. There is no indication in Obradovich that the disclosed communications device contains the densely packed chips that characterize the ball-grid arrays of Sridharan, and thus is unlikely that the cited motivation applies to the Obradovich system. Thus, there is no suggestion or motivation in Sridharan to modify Obradovich to include a Faraday cage that surrounds a L-band transceiver that is configured operate as a heat sink to draw heat from the transceiver away from the processing unit, as recited in claim 1.

Additionally, Sridharan is non-analogous art in that one skilled in the art would not look to ball-grid arrays to solve the high power heat problem and frequency sensitivity of the tablet computer assembly with satellite transmission capabilities. See, for example, *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993) (Patent claims were directed to single in-line memory modules (SIMMs) for installation on a printed circuit motherboard for use in personal computers. Reference to a SIMM for an industrial controller was not necessarily in the same field of endeavor as the claimed subject matter merely because it related to memories. Reference was found to be in a different field of endeavor because it involved memory circuits in which modules of varying sizes may be added or replaced, whereas the claimed invention involved compact modular memories. Furthermore, since memory modules of the claims at issue were intended for personal computers and used dynamic random-access-memories, whereas reference SIMM was developed for use in large industrial machine controllers and only taught the use of static random- access-memories or

read-only-memories, the finding that the reference was nonanalogous was supported by substantial evidence.)

It is further submitted that Sridharan does not teach or suggest a Faraday cage that is a metallic enclosure substantially encompassing a transceiver module, such that even if one skilled in the art were lead to incorporate the internal Faraday cages disclosed in Sridharan into the communications system of Obradovich, the resulting system would not provide the claimed invention, as it is unlikely that the resulting Faraday cage would enclose the L-band transceiver in its entirety, as required in claim 1. While Obradovich does not disclose much of its internal design, it is reasonable to expect that any transceiver located in the Obradovich system is not located in a single integrated circuit package. For example, as can be seen in FIG. 2 of the subject application, the RF transceiver module 104 is made up of at least three separate boards 106, 118, and 120, each presumably comprising several integrated circuit packages. If each package were to be provided with its own Faraday cage in accordance with the teachings of Sridharan, no one Faraday cage would enclose the L-band transceiver, as recited in claim 1. It is thus respectfully submitted that claim 1 defines patentable invention over Obradovich and Sridharan, and the withdrawal of this rejection is respectfully requested.

Finally, Applicant's respectfully disagrees with the Examiner's assertion that the claimed module is obvious as it involves separating components shown as integral in the art. Even assuming that the prior art did teach the claimed module in combination with a personal digital assistant (PDA), which is disputed, the Federal Circuit has found, in an analogous case, that making integral a device which was previously implemented as separate components can be nonobvious where the integration of the components provides an advantage not present in the art. *See, e.g., Schenck v. Nortron Corp.*, 713 F.2d 782 (1983) (finding that the combination eliminated the need for mechanisms to damped resonance, and was thus nonobvious over cited art). As described in paragraph 0025 of the specification of the subject application, the claimed module allows for the replacement of obsolete processing hardware without incurring significant reengineering costs. Since, in general, the useful life of a given PDA will be considerably less than that of the GPS and transceiver components, this modularity can result in significant cost

savings. None of the cited art teaches or suggests such an advantage for a modular arrangement this advantage. It is thus respectfully submitted that claim 1 defines patentable invention over the cited art.

Claim 4 depends from claim 1, and is allowable for at least the same reasons. It is thus submitted, for the reasons described above, claims 1 and 4 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

## **II. Rejection of Claim 2 Under 35 U.S.C. §103(a)**

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich in view of Sridharan as applied to claim 1, and further in view of U.S. Publication No. 2003/0032426 to Gilbert, et al. ("Gilbert"). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 2 recites a single antenna operative to transmit and receive signals at L-band frequencies and to transmit and receive signals at GPS frequencies. The Office Action notes that Obradovich and Sridharan do not teach a single antenna that is shared by an L-band transmitter and a GPS receiver, relying on Gilbert to provide this teaching. It is respectfully submitted, however, that the teachings of Gilbert, even taken in combination with Obradovich and Sridharan, would not lead one skilled in the art to utilize a single shared antenna for an L-band transceiver and a GPS system in a communications module for a portable device. To begin with, it is respectfully submitted that one skilled in the art would not look to a vehicle-based system, namely the aircraft communications system of Gilbert, to modify the portable communication system of Obradovich. With the space and power resources available in an aircraft, the Gilbert system can utilize various mechanisms, such as spatial separation or heavy shielding, that are not available for a portable communications system. *See* Gilbert, ¶0053.

Further, Gilbert specifically teaches away from the claimed system. While Gilbert does state the GPS antenna 54 can be shared with an antenna that transmits packet data to a satellite, it specifically states that the GPS antenna “may be any L-band antenna used for data or voice reception (*e.g., where no L-band transmission occurs on that antenna*).” Gilbert ¶0053

(emphasis added). Accordingly, at best, Gilbert provides an ambiguous teaching to one skilled in the art, and in fact, warns one skilled in the art away from allowing a GPS system to share an antenna with an L-band transmitter. Since claim 1 recites an L-band transceiver that transmits location data, it is respectfully submitted that one skilled in the art, guided by Gilbert, would not seek to create the system recited in claim 2, which depends from claim 1. Further, Gilbert does not remedy the deficiencies of Obradovich and Sridharan with respect to claim 1, as discussed above. It is thus respectfully submitted that claim 2 defines patentable invention over the cited art, and the allowance of claim 2 is respectfully requested.

### **III. Rejection of Claim 3 Under 35 U.S.C. §103(a)**

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich in view of Sridharan, and further to Gilbert as applied to claim 2, and further in view of U.S. Publication No. 2005/0162334 to Saunders, et al. ("Saunders"). Claim 3 depends from claim 2, and Saunders does not remedy the deficiencies of Obradovich, Sridharan, and Gilbert with respect to claim 2, as discussed above. It is thus submitted that claim 3 should be patentable over the cited art, and the withdrawal of this rejection is respectfully requested.

### **IV. Rejection of Claims 4 and 5 Under 35 U.S.C. §103(a)**

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich in view of Sridharan as applied to claim 1, and further in view of "Xilinx" by Bielby ("Bielby"). Each of claims 4 and 5 depend from claim 1, and Bielby does not remedy the deficiencies of Obradovich and Sridharan with respect to claim 1, as described above. It is thus submitted that claims 4 and 5 define patentable invention over the cited art, and withdrawal of this rejection is respectfully requested.

### **V. Rejection of Claim 6 Under 35 U.S.C. §103(a)**

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Obradovich in view of Sridharan as applied to claim 1, and further in view of U.S. Publication No. 2005/0114553 to Lada, et al. ("Lada"). Claim 6 depends from claim 1 through claim 5, and Lada does not remedy the deficiencies of Obradovich and Sridharan with respect to claim 1, as described above. It is thus submitted that claim 6 defines patentable invention over the cited art, and withdrawal of this rejection is respectfully requested.

**CONCLUSION**

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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